



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,456	03/24/2006	Takaki Kanbara	062253	9275
38834	7590	01/23/2008		
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP			EXAMINER	
1250 CONNECTICUT AVENUE, NW				LISTVOYB, GREGORY
SUITE 700			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20036			1796	
			MAIL DATE	DELIVERY MODE
			01/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/573,456	KANBARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gregory Listvob	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 November 2007.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
  - 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-6 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

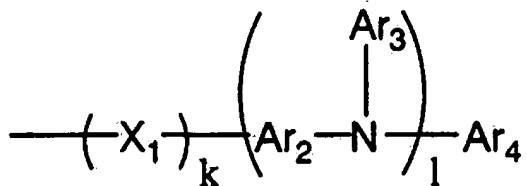
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Doi et al (US 2003/0064247) herein Doi.

Doi discloses a polymeric substance repetition structural unit of the following structure (3):

where Ar2 represents an arylene group or a divalent heterocyclic compound group; Ar3 represents an aryl group or a monovalent heterocyclic compound group (lines 0009 and 0010).



Doi teaches Ar<sub>2</sub> and Ar<sub>3</sub> can be represented by the divalent heterocyclic compound by such as pyridinedyl group (see line 0023) or phenyl or naphthyl, or anthryl groups (see line 0021). Therefore, in case if Ar<sub>2</sub>= pyridinedyl group and Ar<sub>3</sub>= pyridinedyl group or phenyl group Doi's structure is inherently equal to a polyaminopyridine of Claim 1.

The advantage of having pyridinedyl group is that it changes emitting spectra (i.e. color) of the polymer, increasing applicability of the composition.

Alternatively, even if not anticipated, the position is taken that it would have been obvious to a person of ordinary skills in the art to choose pyridinedyl group over other listed groups for particular purposes, since it changes emitting spectra of the polymer (i.e. color), increasing its applicability in light emitting diodes.

Note that Doi discloses that the repetition structural unit of Formula (3) exists in the side chain of the polymer. However, term "repetition structural unit" does not exclude the fact that the structural unit presents in a side chain.

According to MPEP 2111 "During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard".

Doi teaches a molecular weight of 5000 for one of his structures (see Example 1).

### ***Response to Arguments***

Applicant's arguments filed on 11/08/2007 have been fully considered but they are not persuasive.

Regarding Applicant's argument that formula of Doi does not teach the limitation of claims 1, 3 and 5 requiring a repetition structural unit as set forth in applicants' formula (1), Doi discloses all the structural units of Formula 1, i.e. Nitrogen atom, heterocyclic fragment and arlenes ((see lines 0009 and 0010).

In reference to the Applicant's argument that "l" is within the range of 1 to 3, when "k" is equal to 0 ("k" values is within the range of 0 to 1, see line 0010), the Doi

polymer transforms to a polymer containing only aromatic part linked with Nitrogen atom.

Regarding Applicant's argument about substituent, Doi discloses aromatic hydrocarbons as a part of Ar 1 (see line 0020), which is the same as one used in the Application examined.

Applicant argues that since Doi discloses a polymer comprising units Ar1 (the same as one of the Application) and Ar 5, the main chain of the Doi's polymer and one of the application are different. However, Claim 1 of the Application does not exclude an additional structural unit present in the polymer , saince both Doi and Application have a polymer having a repetition structural formula (1)).

Regarding Applicant's argument that Doi's compound may have an unsufficient solubility due to the presense of Ar5 fragment, Doi discloses that Phenyl's of formula (3) can have alkyl substitutions (see line 0068) in order to increase solubility of the fluorescent compound (Note that substitute R1 of of the Application's Claim 1 is defined as hydrogen , alkyl group, etc., i.e. the same group as one disclosed by Doi).

The perfected Foreign Priority (setrified Translation), filed on 11/08/2007 has been considered. Therefore, rejection under 35 U.S.C. § 102(a) based on Takatani et al (JP 2004-184569) is withdrawn.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/573,456  
Art Unit: 1796

Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb  
Examiner  
Art Unit 1796

GL  
\*\*\*



RABON SERGENT  
PRIMARY EXAMINER